

# **Tax Reform: Possible Consequences of Trading Accelerated Depreciation for Corporate Income Tax Rate Reduction**

**By**

**Margo Thorning, Ph.D.  
Senior Vice President and Chief Economist  
American Council for Capital Formation**

**Testimony submitted for the record for the hearing on  
“Interaction of Tax and Financial Accounting on Tax Reform”  
Committee on Ways and Means  
U.S. House of Representatives  
February 8, 2012  
Executive Summary**

**Determinates of U.S. Investment:** Over the past three decades economics and finance experts have examined the question of whether financial variables such as cash flow and cash stocks have a significant effect on investment. Numerous economic analyses and surveys have concluded that financial factors are important in determining investment levels. For example, a 1998 empirical analysis by Professors Gilchrist and Himmelberg concludes that for the average firm in their sample, cash flow and cash stocks raise the overall response of investment to an expansionary shock by 25% relative to a baseline case where financial frictions (capital market imperfections) are zero.

**Accelerated Depreciation, the Cost of Capital, U.S. Investment and Jobs:** If accelerated depreciation for equipment is repealed and replaced with economic depreciation which is generally longer than the current Modified Accelerated Cost Recovery System (MACRS), the cost of capital for new equipment will rise and investment is likely to be as much as \$191 billion lower in 2015 compared to the baseline. Each \$1 billion decline in investment is associated with a loss of 23,300 jobs.

**Bonus Depreciation and U.S. Investment:** Since the 4<sup>th</sup> quarter of 2007, which marks the beginning of the recession, through the 4<sup>th</sup> quarter of 2011, U.S. equipment investment has increased by 3.4%. Given the weakness of consumer demand during this period (real personal consumption expenditures increased only 1.8% during the past 4 years) it seems likely that accelerated and bonus depreciation have played a major role in sustaining investment in equipment.

**Conclusions:** As policymakers contemplate fundamental tax reform they need to weigh carefully the possible consequences of eliminating accelerated depreciation in return for a lower corporate income tax. It may be well to consider “paying for” corporate income tax rate reductions with cuts to entitlements for upper income individuals rather than eliminating proven investment provisions such as accelerated depreciation. Another option would be to move toward a consumed income tax where all investment is expensed.

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## **Introduction**

Chairman Camp, Ranking Member Levin, and members of the Subcommittee, my name is Margo Thorning, senior vice president and chief economist, American Council for Capital Formation (ACCF),\* Washington, D.C. I am pleased to submit this testimony for the hearing record to outline some possible economic impacts from eliminating accelerated depreciation and reducing the corporate income tax rate.

The American Council for Capital Formation represents a broad cross-section of the American business community, including the manufacturing and financial sectors, Fortune 500 companies and smaller firms, investors, and associations from all sectors of the economy. Our distinguished board of directors includes cabinet members of prior Democratic and Republican administrations, former members of Congress, prominent business leaders, and public finance and environmental policy experts. The ACCF is celebrating over 30 years of leadership in advocating tax, regulatory, environmental, and trade policies to increase U.S. economic growth and environmental quality.

## **Background**

The majority of the witnesses presenting testimony at the February 8<sup>th</sup> hearing conclude that many in the corporate community would support giving up accelerated depreciation for new investment in exchange for a reduction in the corporate income tax rate because of the impact the income tax rate reduction would have on their financial statements. For example, testimonies by Thomas Neubig of Ernst & Young LLP and Michelle Hanlon of the Massachusetts Institute of Technology state that accelerated depreciation offers only a

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*\*The mission of the American Council for Capital Formation is to promote economic growth through sound tax, environmental, and trade policies. For more information about the Council or for copies of this testimony, please contact the ACCF, 1750 K Street, N.W., Suite 400, Washington, D.C. 20006-2302; telephone: 202.293.5811; fax: 202.785.8165; e-mail: [info@accf.org](mailto:info@accf.org); website: [www.accf.org](http://www.accf.org)*

timing benefit while a lower corporate tax rate would reduce a company's effective tax rate and increase book net income reported to shareholders (see <http://waysandmeans.house.gov/UploadedFiles/NeubigTestimony78FC.pdf> and <http://waysandmeans.house.gov/UploadedFiles/HanlonTestimony78FC.pdf>).

Given the fragility and uncertainty of the U.S. economic recovery and continued high unemployment rate (currently 8.3%), it seems to me that the key question should be “What will giving up accelerated depreciation and reducing the corporate income tax do to U.S. investment and job growth?” rather than “How will financial reports to shareholders be impacted?” In my testimony I present an alternative perspective, suggesting that the positive impact of accelerated depreciation on cash flow is likely to be an important determinant in the level of investment in new equipment and thus on the prospects for strong U.S. economic recovery.

### **What Determines U.S. Investment?**

Over the past three decades, economics and finance experts have examined the question of whether financial variables such as cash flow and cash stocks have a significant effect on investment. Some studies conclude that cash flow is mainly relevant for situations in which capital market imperfections exist and access to external debt and equity is costly.

Numerous other economic analyses and surveys have concluded that financial factors are important in determining investment levels. For example, a 1998 empirical analysis by Professors Gilchrist and Himmelberg concludes that for the average firm in their sample, cash flow and cash stocks raise the overall response of investment to an expansionary shock by 25% relative to a baseline case where financial frictions (capital market imperfections) are zero.<sup>1</sup> They note that “Consistent with theory, small firms and firms without bond ratings show the strongest response to financial factors.... Because bond-rated firms account for 50% of aggregate manufacturing investment, our results suggest that the overall amplification of manufacturing investment {from cash flow and cash stocks} is somewhat less than 25%.”

Similarly, a recent analysis of a large number of Swedish firms during the 1989-2005 period concludes that cash flow has a significant impact on investment and the effect is particularly strong for constrained firms, especially during recessions.<sup>2</sup>

A survey of senior financial executives by the Manufacturer's Alliance in December, 2006 found that cash flow was the most important factor affecting the level of investment, followed by expected profits and projections of market growth (see Table 1).<sup>3</sup>

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<sup>1</sup> Simon Gilchrist and Charles Himmelberg, “Investment, Fundamentals and Finance”, NBER Working Paper 6652, see <http://www.nber.org/tmp/22969-w6652.pdf>

<sup>2</sup> Ola Melander, “The Effect of Cash Flow on Investment: An Empirical Test of the Balance Sheet Channel”, see [http://www.riksbank.se/upload/dokument\\_riksbank/kat\\_publicerat/workingpapers/2009/wp228.pdf](http://www.riksbank.se/upload/dokument_riksbank/kat_publicerat/workingpapers/2009/wp228.pdf)

<sup>3</sup> Donald Norman, “The Puzzle of Manufacturing Sector Investment”, Manufacturers Alliance/MAPI, see <http://www.palgrave-journals.com/be/journal/v43/n2/pdf/be200810a.pdf>

## **Accelerated Depreciation, the Cost of Capital, U.S. Investment and Job Growth**

If accelerated depreciation for equipment is repealed and replaced with economic depreciation which is generally longer than the current Modified Accelerated Cost Recovery System (MACRS), the cost of capital for new equipment will rise and investment is likely to decline, relative to the baseline forecast. The benefit of MACRS is its positive impact on cash flow, which occurs immediately as the investment is put in place. In an increasingly uncertain world in which markets, demand and production costs can shift almost overnight, the rapid payback from MACRS depreciation substantially reduces the risk premium for investment in equipment. Having the benefit of MACRS reduces the risk premium and the hurdle rate required to make new investment attractive. While a lower corporate income tax rate would also make investment attractive, if MACRS is repealed, it seems likely that the slower payback period will raise the hurdle rates and slow the productivity enhancing investment in new equipment.

- **Has Bonus Depreciation Helped to Stimulate the U.S. Economy?**

Michelle Hanlon's testimony states that there is "little evidence" that targeted tax code provisions such as bonus depreciation (100% write off for new investment in the last quarter of 2010 and 2011 and 50% for 2012) have spurred aggregate investment.<sup>4</sup> Her testimony provides no empirical evidence for this claim and a look at the recent strength of equipment investment suggests otherwise. Since the 4<sup>th</sup> quarter of 2007, which marks the beginning of the recession, through the 4<sup>th</sup> quarter of 2011, U.S. equipment investment has increased by 3.4%, from \$1,121 billion to \$1,160 billion. Given the weakness of consumer demand during this period (real personal consumption expenditures increased only 1.8% during the past 4 years), it seems likely that accelerated and bonus depreciation have played a major role in sustaining investment in equipment.

- **Repeal of MACRS, U.S. investment and job growth**

When evaluating a prospective investment, business analysts typically add a risk premium to the firm's cost of capital, ranging from 0 to 50 % and higher. Assuming that the repeal of accelerated depreciation increases the risk premium added to the firm's cost of capital by 30% to 40 % and using conservative estimates of the elasticity of investment in response to changes in the cost of capital, it seems likely that U.S. investment in equipment could decrease by 5% to 15% over 2012-2016 period compared to the baseline forecast. As a result, U.S. equipment investment, which averaged \$1.1 trillion in 2011, could decline by between \$60 billion and \$180 billion in 2013 and by \$64 billion to as much as \$191 billion in 2015. This decline in investment would make it harder to restore strong job growth. ACCF research shows that each one billion dollar decrease in

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<sup>4</sup> <http://waysandmeans.house.gov/UploadedFiles/HanlonTestimony78FC.pdf>

investment is associated with 23,300 fewer jobs and conversely each \$1 billion increase in investment raises employment by the same amount (see Figure 1).

### **Are U.S. Depreciation Schedules More Generous than our Trading Partners’?**

The testimony presented by Tom Neubig of Ernst & Young LLP states that moving toward economic depreciation has been used by many OECD countries to help partially finance their reductions in corporate tax rates.<sup>5</sup> However a 2007 international comparison of depreciation and corporate tax rates for energy investments in the U.S. and 11 of our major trading partners showed that U.S. firms faced slower depreciation allowances than our competitors.<sup>6</sup> The study, prepared for the ACCF by Ernst & Young LLP, found that in most countries and for most energy investments, the net present value of depreciation deductions was larger in other countries than in the U.S. (see Appendix II of the ACCF report). In addition, our trading partners have lower effective tax rates and lower corporate income tax rates for energy investments than does the U.S. (see Table 7 and Appendix I, Table 2).<sup>7</sup>

### **How would Switching to a Consumed Income Tax Impact U.S. Investment, Economic and Job Growth?**

Over the years, many economic analyses have estimated that if the U.S. switched to a consumed income tax in which all investment was expensed, investment and economic growth would be enhanced. In an attempt to understand how such a system would have impacted the U.S. economy had it been in place in the 1991-2004 period, Dr. Allen Sinai, president and chief global economist of Decision Economics, used his large scale macroeconomic model to simulate the impact of a consumed income tax. The simulation modeled a system in which all saving is tax exempt, all new investment is written off in the first year, and interest expense is not tax deductible. The consumed income tax simulation shows strong increases in GDP, investment, employment, and federal tax receipts. If this tax system had been in place from 1991–2004, GDP would have been 5.2 percent higher every year, consumption and investment would have been greater, and employment higher by over 500,000 jobs per year (see Table 2).

### **Conclusions**

As policymakers contemplate fundamental tax reform, they need to weigh carefully the possible consequences of eliminating accelerated depreciation in return for a lower corporate income tax. As many practitioners will remember, the cut in the corporate rate to 34% in 1986 only survived five years, so there is no guarantee that a future rate cut will endure. It may be well to consider “paying for” corporate income tax rate reductions with cuts to entitlements for upper income individuals (as suggested in the

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<sup>5</sup> <http://waysandmeans.house.gov/UploadedFiles/NeubigTestimony78FC.pdf>

<sup>6</sup> [http://www.accf.org/media/dynamic/8/media\\_82.pdf](http://www.accf.org/media/dynamic/8/media_82.pdf)

<sup>7</sup> Ibid.

Bowles/Simpson tax reform plan) rather than eliminating proven investment provisions such as accelerated depreciation. Another option would be to move toward a consumed income tax where all investment is expensed.

<b>Table 1. Drivers of U.S. Investment</b>						
<b>Number of Respondents (Percent of Respondents)</b>						
	<b>Very Important</b>				<b>Not Important</b>	<b>Average</b>
	<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>Score</b>
Cash Flow	28 (55)	16 (31)	7 (14)	0 (0)	0 (0)	4.4
Expected Profits	25 (50)	16 (32)	9 (18)	0 (0)	0 (0)	4.3
Projections of Market Growth	19 (37)	19 (37)	12 (24)	1 (2)	0 (0)	4.1
Capacity Utilization	18 (35)	17 (33)	10 (20)	4 (8)	2 (4)	3.9
Current Profits	13 (26)	9 (18)	24 (48)	2 (4)	2 (4)	3.6
Labor Cost Trends	7 (14)	15 (30)	13 (26)	10 (20)	5 (10)	3.2
Tax Treatment of Investment/Depreciation	2 (4)	9 (18)	17 (34)	19 (37)	3 (6)	2.8
Outstanding Debt	2 (4)	13 (25)	11 (22)	16 (31)	9 (18)	2.7
Commodity Price Trends	2 (4)	9 (18)	14 (28)	12 (24)	13 (26)	2.5
Competitors' Investments	3 (6)	5 (10)	13 (25)	20 (39)	10 (20)	2.4
Long-Term Interest Rates	0 (0)	7 (14)	16 (31)	20 (39)	8 (16)	2.4
Source: Manufacturers Alliance/MAPI, Business Outlook Survey, ER-611e, December 2005.						

**Table 2: International Comparison of the Effective Tax Rate on Selected Energy Investments, 2006**

	Electric Generation					Electric Transmission & Distribution Lines		Pollution Control Equipment	Petroleum Refining	
	Gas	Coal	Nuclear	Combined Heat & Power Generation	Self-Generated Electricity	Transmission Lines	Distribution Lines	Discharge Modification	Crude Unit (Distillation Unit)	Fluid Catalytic Cracking Unit
United States	26.7%	30.8%	26.7%	30.8%	26.7%	27.5%	31.7%	23.4%	21.6%	21.6%
Brazil	25.7%	22.0%	N/A	25.7%	17.1%	33.5%	33.5%	13.0%	19.9%	19.9%
Canada	13.5%	13.5%	13.5%	13.5%	13.5%	30.3%	30.3%	18.1%	15.8%	15.8%
China	19.0%	19.0%	19.0%	19.0%	19.0%	19.0%	19.0%	25.0%	22.1%	22.1%
Germany	28.3%	28.3%	25.1%	28.3%	28.3%	31.4%	31.4%	19.5%	19.8%	17.1%
India	16.6%	16.6%	16.6%	16.6%	16.6%	16.6%	16.6%	0.0%	15.5%	15.5%
Indonesia	18.4%	19.0%	19.0%	19.0%	19.0%	19.0%	19.0%	25.0%	22.1%	22.1%
Japan	25.5%	25.5%	25.5%	25.5%	27.1%	30.6%	30.6%	21.3%	20.4%	20.4%
Rep of Korea	5.2%	5.2%	5.2%	5.2%	5.2%	5.2%	5.2%	-9.7%	-9.7%	-9.7%
Malaysia	4.8%	4.8%	4.8%	4.8%	4.8%	3.9%	3.9%	1.8%	7.1%	7.1%
Mexico	12.7%	12.7%	12.7%	12.7%	12.7%	20.1%	20.1%	2.6%	19.0%	19.0%
Taiwan	14.9%	14.9%	14.9%	14.9%	14.9%	14.9%	14.9%	-18.8%	10.2%	10.2%

Source: “International Comparison of Depreciation Rules and Tax Rates for Selected Energy Investments”, Prepared for the American Council for Capital Formation, Ernst and Young, May 2007.

**Table 3: Corporate Income Tax Rates, 2006**

<b>Country</b>	<b>Tax Rate</b>
United States	39.3% <sup>9</sup>
Brazil	34.0%
Canada	36.1%
China	33.0%
Germany	38.3%
India	30.0%
Indonesia	30.0%
Japan	39.7%
Rep of Korea	35.0%
Malaysia	28.0% <sup>10</sup>
Mexico	29.0%
Taiwan	25.0%

Source: OECD and Ernst & Young Corporate Tax Guide

Source: “International Comparison of Depreciation Rules and Tax Rates for Selected Energy Investments”, Prepared for the American Council for Capital Formation, Ernst and Young, May 2007.



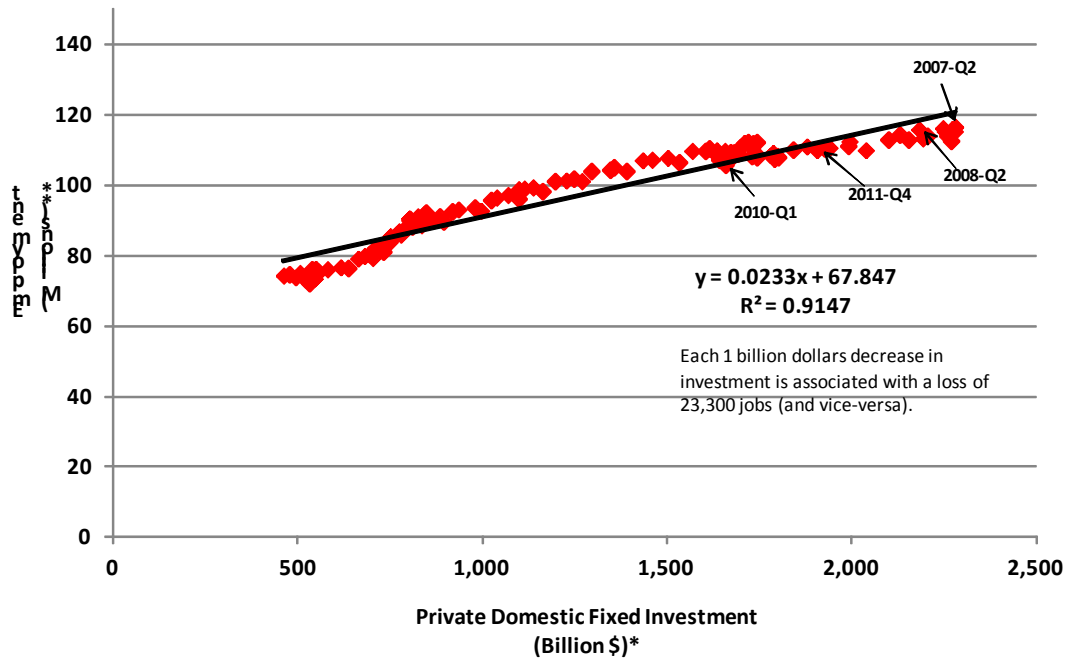
**Table 4 Economic Impact on the United States of Switching to a Consumption Tax in 1991**

Expensing business investment, removal of the business and personal interest deduction, and tax exemption of savings

	Average 1991–1995	Average 1996–2000	Average 2001–2004
<b>Real GDP—level (billions of 96\$)</b>			
Base	7,085.8	8,499.6	10,113.1
Simulation of consumption tax	7,203.2	8,890.0	10,637.7
(Difference in level)	117.5	390.5	524.6
(Percent change in level)	1.7%	4.6%	5.2%
<b>Business capital spending, total (billions of 96\$)</b>			
Base	684.2	1,092.0	1,599.6
Simulation of consumption tax	824.9	1,495.6	2,168.8
(Difference in level)	140.7	403.5	569.2
(Percent change in level)	20.6%	37.0%	35.6%
<b>Consumption (billions of 96\$)</b>			
Base	4,761.7	5,717.2	6,746.3
Simulation of consumption tax	4,773.3	5,843.4	7,021.5
(Difference in level)	11.6	126.1	275.3
(Percent change in level)	0.2	2.2	4.1
<b>S&amp;P 500 Price Index</b>			
Base	449.1	1081.9	1803.2
Simulation of consumption tax	557.4	1370.5	2123.4
Difference	108.4	288.6	320.2
(Percent difference in level)	24.1%	26.7%	17.8%
<b>Employment (millions of persons)</b>			
Total payrolls, base	111.8	125.8	138.5
Total payrolls, simulation of consumption tax	111.8	129.3	140.9
(Difference in level)	0.0	3.6	2.4
<b>Productivity (annual percent change)</b>			
Nonfarm business, base	1.5	2.7	2.3
Nonfarm business, simulation of consumption tax	2.6	2.8	2.8
Difference	1.1	0.1	0.5
<b>Total federal tax receipts</b>			
Base	6,210.5	8,853.2	9,179.3
Simulation of consumption tax	5,745.5	8,821.0	9,607.7
(Difference in level)	-465.0	-32.2	428.5

Source: Margo Thorning, "U.S. Capital Formation: How the U.S. Tax Code Discourages Investment" (Lewisville, Tex.: Institute for Policy Innovation, forthcoming), using data from Allen Sinai, "Macroeconometric Model Simulation With the Sinai-Boston Model of the U.S. Economy," unpublished study, 2001.

**Figure 1. Total Private Employment and Private Domestic Fixed Investment  
1980-Q1 to 2011-Q4**



\* Seasonally adjusted at annual rates, BEA.

\*\* End of quarters, BLS